Three Act Lesson: *the Whopper Jar*

Learning Target: I can show my mathematical thinking in pictures, numbers and words.

- Curricular competencies:

Reasoning and analyzing

- Use reasoning to explore and make connections
- Estimate reasonably
- Develop mental math strategies and abilities to make sense of quantities
- Use technology to explore mathematics
- Model mathematics in contextualized experiences

Understanding and solving

- Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving
- Visualize and explore mathematical concepts
- Develop and use multiple strategies to engage in problem solving

Communicating and representing

- Communicate mathematical thinking in many ways
- Use mathematical vocabulary and language to contribute to mathematical discussions
- Explain and justify mathematical ideas and decisions
- Represent mathematical ideas in concrete, pictorial, and symbolic forms

- Content

Grade 2 number concepts: counting: — skip-counting by 2, 5, and 10

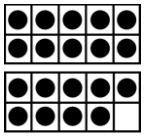
Grade 3 number concepts: counting: — skip-counting by any number from any starting point, increasing and decreasing (i.e., forward and backward) — Skip-counting is related to multiplication.

Before:

Number Talks ~ use the magnetic two sided counters, place in groups of 5 (25) and ask children how many they see? How do you see that quantity?

~ repeat number talk with magnetic ten frame showing twenty five

What would 19 look like in counters? In the ten frame? Demonstrate with student responses.



Which format makes seeing 19 easier?

During:

A Three Act Task: *The whopper jar* https://gfletchy.com/the-whopper-jar/

ACT ONE: Watch the 46 second clip. As a whole group, invite students to think about and share what they noticed in the clip and what they wonder, and record their ideas.

What did you notice?	What do you wonder?

1. How many chocolate Whoppers fit in the jar?
2. Too high estimate? Too low estimate? Does your high/low estimate make sense in this context?

Students write their estimates on two different coloured post-its and walk them to the chalkboard. Teacher arranges the post-its in an array.

A too low estimate:	A too high estimate:

Invite and record several estimates and collectively identify the range - the lowest estimate in the class and the highest of the estimates in the class.

Next, invite students to consider, "What information would help solve this problem? How would you get it? What tools would you use?" Record their ideas.

ACT TWO: Carefully viewing the videos, invite students to consider the number of whopper packages and the number of left overs from package 5. Next view the number of whoppers in a package.

Arrange Random Groupings - model using an array to sort students into groups of three.

In groups of three, using the nonpermanent surfaces (one small white board/dry erase marker/group), invite students to figure out "How many chocolate whoppers Students are encouraged to show their thinking in pictures, numbers and words. Have counters available for solving and representing.

After

ACT THREE:
Bring the groups back together to share and reflect on their collaboration as well as their too high/too low estimates.

What worked (What strategy did you use to work toward a solution)? What was difficult? What would you do differently next time?

Share the video clips - and their astonishing answers!